32-bit CardBus

10/100Mbps Fast Ethernet

PC Card

User’s Guide

FCC Warning

This equipment has been tested and found to comply with the regulations for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this user's guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Mark Warning

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取扱説明書に従って正しい取り扱いをして下さい。

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Introduction

General Description

The 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card is a credit-card sized Fast Ethernet adapter for connecting a notebook to an IEEE 802.3 Ethernet network and IEEE 802.3u Fast Ethernet network, it's designed to work with notebooks or handheld computers that with CardBus slots. Inside its compact package, the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card holds the Ethernet controller, network processing interface, RAM for the data buffer a, 68-pin PC Card plug and RJ-45 10/100Mbps Fast Ethernet port. It requires no pre-installation setup -- simply insert the PC Card into the computer's 32-bit CardBus slot.

The 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card features LED indicators for 10M Link/Activity, and 100M Link/Activity.

LED Indicators

The 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card provide two LED indicators:

1. 10M Link/Activity (10M Link/ACT)

   - This indicator lights green when the RJ-45 port is connected to a 10Mbps Ethernet network, if the indicator blinking green will be transmissing/received data to/from the 10Mbps Ethernet network.

2. 100M Link/Activity Indicator (100M Link/ACT)

   - This indicator lights green when the RJ-45 port is connected to a 100Mbps Fast Ethernet network, if the indicator blinking green will be transmissing/received data to/from the 100Mbps Fast Ethernet network.

Summary of Features

The 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card provides the following features:

- Complies with IEEE 802.3 10BASE-T Ethernet standard
- Complies with IEEE 802.3u 100BASE-TX Fast Ethernet standard
- Complies with ANSI / IEEE 802.3 NWay Auto-Negitiation standard
- Complies with 32-bit CardBus Standard
- Built-in 32KB RAM data buffer
- Auto-Polarity for UTP/STP cables.
- No manual setup switches -- automatically configured by software
- Low power consumption
- Supported driver list:
  - Microsoft Windows 95/OSR2
  - Microsoft Windows 98
  - Microsoft Windows ME
  - Microsoft Windows NT 4.0

- Microsoft Windows 2000
- MS Windows for Workgroup 3.11 (NDIS2)
- Microsoft Client for DOS (NDIS2)
- Novell NetWare Client for DOS
- Novell NetWare v5.0 Server
- Novell NetWare v4.1x Server
- Novell NetWare v3.12 Server
- Novell NetWare Client 32 for DOS/WIN
- Packet Driver
- NDIS Driver v2.0 for DOS
- Linux

Card Insertion and Removal

Card Insertion

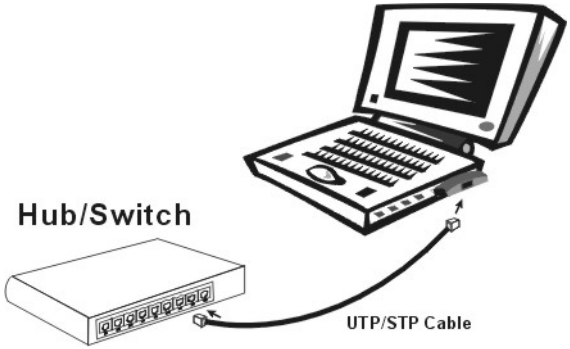
Follow these steps to install the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card:

[1] Insert the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card

Find/select an available Type II or Type III 32-bit PC Card slot on your notebook's side or rear panel. Holding the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card with the LED indicator facing up then insert to the 32-bit PC Card slot. Slide the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card all the way into the 32-bit PC Card slot until it reaches a firm stop.

[2] Connect to the Network Media

Simply plug one end of the cable (RJ-45 connector) into an available hub/switch port, and plug the other end (RJ-45 connector) into the RJ-45 port of your 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card.



Card Removal

Use the computer's PC Card Eject mechanism to unseat the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card from the computer's PC Card slot. The *PC Card* will then protrude from the PC Card slot and you can easily remove the *PC Card* by gripping its protruding end and withdrawing it from the *PC Card* receptacle.

Driver Installation

Before you connect the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card to the network, you have to install the network driver first. The driver for each networking operating system is under a separate directory. A ***HELP8139.EXE*** file under root directory lists the information and detailed installation procedure of all the available drivers.

Card insertion as described in Chapter ***"Card Insertion and Removal"*** must be completed before you proceed with software installation.

Diagnostics

If you experience any problems with the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card, first verify that the appropriate driver is loaded, that the proper grade of cable is employed for the network connection, and that the supporting hub/switch is functioning properly.

1. As certain that the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card is fully and firmly seated in the 32-bit CardBus PC Card slot.
2. Check the length and rating of connecting cables.
3. Replace the adapter in question with a verified adapter and run ***ENCBRSET.BAT*** diagnostic tests on the driver diskette at directory of \Rset\.
4. Install the questioned adapter in another notebook PC and run the tests again.

Remove all other PC Card from the notebook PC and run the tests again. If the diagnostic run is abnormal, then there is probably an interrupt number conflict that will have to be resolved manually by a CMOS Setup utility run after you have reinstalled all of the expansion cards.

The Diagnostic Program provides two levels of testing: Adapter Basic Diagnostics and Network Diagnostics.

Adapter Basic Diagnostic does not require substitution of a loopback cable. All procedures of the Adapter test may be carried out with the network cable connection in place.

For the Network Diagnostics, the cable connecting your station with its supporting hub/switch must be in place. Network Diagnostic involves ”broadcast” transmission of test packets from the initiator station. The test cannot be fully implemented unless a responder station on the LAN is available to the Network Diagnostics, in order to return the test packets to the initiator station.

To run the Diagnostic Program, proceed with these steps:

Adapter Basic Diagnostics

1. Insert the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card Driver Diskette in an available drive (here shown as drive A). At the DOS prompt (here shown as >), key in:

   > A: \Rset\ENCBRSET.BAT and <Enter>.

   The opening screen of the Diagnostic program will appear.

2. Review the reported configuration data before proceeding to Step 3.

3. The Configuration Data screen also features a Diagnostic Menu. Follow the cues at the foot of the screen to select and run the Adapter Basic Diagnostic program. The adapter function test results will appear onscreen. In the loopback test, test signals are intercepted and reflected at the MAC level without reaching the network cable. If the results are normal, then go ahead to the Network Operation test, starting with Step 4.

Network Diagnostics

4. Insert the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card Driver Diskette into an available drive of an initiator station on your LAN. At the DOS prompt (here shown as >), key in:

   > A: \Rset\ENCBRSET.BAT **and** <Enter>.

   The opening screen of the Diagnostic program will appear onscreen at the initiator station. Follow the cues at the foot of the screen to select and run the Network Test program at the initiator station. The initiator station then begins broadcasting test packets, and at the same time is also ready to receive and return test signals transmitted from the responder station's newly installed the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card.

5. Remove the 32-bit CardBus 10/100Mbps NWay Fast Ethernet PC Card Driver Diskette from your station's (the initiator station's) diskette drive, and insert it into an available drive of a responder station on your LAN. At the DOS prompt (here shown as >), key in:

   > A: \Rset\ENCBRSET.BAT **and** <Enter>.

   The opening screen of the Diagnostic program will appear onscreen at the responder station. Follow the cues at the foot of the screen to select and run the Network Diagnostic program. Observe the "Packets Sent" line to see a steadily and rapidly increasing packet count. This will indicate normal transmission onto the LAN, and will be the end of your Diagnostic run.

Technical Specifications

General	
Standards	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet ANSI/IEEE NWay Auto-Negotiation 32-bit CardBus PC Card
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (half-duplex) 20Mbps(full-duplex) Fast Ethernet: 100Mbps (half-duplex) 200Mbps (full-duplex)
Network Cables	10BASE-T: 2-pair UTP Cat. 3,4,5 EIA/TIA- 568 100-ohm STP 100BASE-TX: 2-pair UTP Cat. 5 EIA/TIA- 568 100-ohm STP
Physical and Environmental	
Temperature	Operating: 0° ~ 50° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
EMI:	FCC Class B, CE Mark B, VCCI-B